Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

General

Title

Pharmacotherapy management of COPD exacerbation: percentage of COPD exacerbations for members 40 years of age and older who had an acute inpatient discharge or ED visit on or between January 1 and November 30 of the measurement year and who were dispensed a systemic corticosteroid within 14 days of the event.

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of chronic obstructive pulmonary disease (COPD) exacerbations for members 40 years of age and older who had an acute inpatient discharge or emergency department (ED) visit between January 1 and November 30 of the measurement year and who were dispensed a systemic corticosteroid (or there was evidence of an active prescription) within 14 days of the event.

Rationale

While other major causes of death have been decreasing, chronic obstructive pulmonary disease (COPD) mortality has risen, making it the fourth leading cause of death in the United States (U.S.) (National Heart, Lung, and Blood Institute, 2006). COPD is characterized by airflow limitation that is not fully reversible, is usually progressive, and is associated with an abnormal inflammatory response of the lung to noxious particles or gases ("Global strategy," 2006). COPD defines a group of diseases that includes chronic bronchitis and emphysema, and patients are prone to frequent exacerbations of symptoms that range from chronic cough and sputum production to severe disabling shortness of breath, leading to significant impairment of quality of life ("COPD surveillance," 2006; McCrory et al., 2001).

In addition to being a major cause of chronic disability, COPD is a driver of significant health care service use. The disease results in both high direct and high indirect costs, and exacerbations of COPD account for the greatest burden on the health care system ("Global strategy," 2006), though studies have shown that proper management of exacerbations may have the greatest potential to reduce the clinical, social and economic impact of the disease. Pharmacotherapy is an essential component of proper management.

Evidence for Rationale

COPD Surveillance-United States, 1971-2000. MMWR CDC Surveill Summ. 2006 Aug;51 (SS-6):1-16.

Global strategy for the diagnosis, management and prevention of COPD. Global Initiative for Chronic Obstructive Lung Disease (GOLD); 2006.

McCrory DC, Brown C, Gelfand SE, Bach PB. Management of acute exacerbations of COPD: a summary and appraisal of published evidence. Chest 2001 Apr;119(4):1190-209. PubMed

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Heart, Lung, and Blood Institute. Fact sheet: chronic obstructive pulmonary disease (COPD). 2006 Jan.

Primary Health Components

Pharmacotherapy management; chronic obstructive pulmonary disease (COPD) exacerbation; emphysema; chronic bronchitis; systemic corticosteroid

Denominator Description

Members 40 years of age or older as of January 1 of the measurement year with a chronic obstructive pulmonary disease (COPD) exacerbation as indicated by an acute inpatient discharge or an emergency department (ED) visit with a principal diagnosis of COPD (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Dispensed prescription for systemic corticosteroid on or 14 days after the Episode Date. Count systemic corticosteroids that are active on the relevant date.

See the related "Numerator Inclusions/Exclusions" field.

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Additional Information Supporting Need for the Measure

- Chronic obstructive pulmonary disease (COPD) exacerbations or "flare-ups" make up a significant portion of the costs associated with COPD (Pasquale et al., 2012). Approximately 15 million adults in the United States have COPD, an irreversible disease that limits airflow to the lungs, but symptoms can be controlled with appropriate medication (National Heart, Lung, and Blood Institute [NHLBI], 2012; Global Initiative for Chronic Obstructive Lung Disease [GOLD], 2014).
- The projected total cost of COPD in 2010 was $49.9 billion (NHLBI, 2009).
- One study found that the average cost of an emergency room (ER) visit or inpatient admission for patients with COPD in 2008 was $5,754, and the average length of stay was 4.8 days. These numbers greatly increased for patients whose disease was more severe (Dalal et al., 2011).
- Approximately 641,000 hospital inpatient discharges and 294,000 ER visits in 2010 were due to COPD (Centers for Disease Control and Prevention [CDC], 2014).
- Because hospital admissions and stays for COPD are the most costly part of the disease, it is essential to take steps to prevent admission or readmission by managing patient medications appropriately. Appropriate prescribing of medication following exacerbation could prevent future flare-ups and drastically reduce the costs of COPD.

Evidence for Additional Information Supporting Need for the Measure

Centers for Disease Control and Prevention (CDC). FastStats: Chronic obstructive pulmonary disease (COPD) includes: chronic bronchitis and emphysema. [internet]. Atlanta (GA): Centers for Disease Control and Prevention (CDC); 2014 [accessed 2014 Jun 10].

Dalal AA, Shah M, D'Souza AO, Rane P. Costs of COPD exacerbations in the emergency department and inpatient setting. Respir Med. 2011 Mar;105(3):454-60. PubMed

Global Initiative for Chronic Obstructive Lung Disease (GOLD). Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease. Vancouver (WA): Global Initiative for Chronic Obstructive Lung Disease (GOLD); 2014. 102 p.

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. 205 p.

National Heart, Lung, and Blood Institute (NHLBI). Morbidity and mortality: 2009 chart book on cardiovascular, lung, and blood diseases. Bethesda (MD): National Institutes of Health (NIH); 2009. 116 p.

National Heart, Lung, and Blood Institute (NHLBI). Morbidity and mortality: 2012 chart book on cardiovascular, lung, and blood diseases. Bethesda (MD): National Institutes of Health (NIH); 2012. 117 p.

Pasquale MK, Sun SX, Song F, Hartnett HJ, Stemkowski SA. Impact of exacerbations on health care cost and resource utilization in chronic obstructive pulmonary disease patients with chronic bronchitis from a predominantly Medicare population. Int J Chron Obstruct Pulmon Dis. 2012;7:757-64. PubMed

Extent of Measure Testing

All HEDIS measures undergo systematic assessment of face validity with review by measurement advisory panels, expert panels, a formal public comment process and approval by the National Committee for Quality Assurance's (NCQA's) Committee on Performance Measurement and Board of Directors. Where applicable, measures also are assessed for construct validity using the Pearson correlation test. All measures undergo formal reliability testing of the performance measure score using beta-binomial statistical analysis.

Evidence for Extent of Measure Testing

Rehm B. (Assistant Vice President, Performance Measurement, National Committee for Quality Assurance, Washington, DC). Personal communication. 2015 Mar 16. 1 p.

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Emergency Department

Hospital Inpatient

Hospital Outpatient

Managed Care Plans

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 40 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

An 11-month period that begins on January 1 of the measurement year and ends on November 30 of the

measurement year

Denominator Sampling Frame

Enrollees or beneficiaries

Denominator (Index) Event or Characteristic

Clinical Condition

Encounter

Institutionalization

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions
Members 40 years of age or older as of January 1 of the measurement year with a chronic obstructive pulmonary disease (COPD) exacerbation as indicated by an acute inpatient discharge or an emergency department (ED) visit with a principal diagnosis of COPD

Identify all members who had either of the following during the Intake Period:

- An ED visit (ED Value set) with a primary diagnosis of COPD (COPD Value Set), emphysema (Emphysema Value Set) or chronic bronchitis (Chronic Bronchitis Value Set).
- An acute inpatient discharge with a primary diagnosis of COPD (COPD Value Set), emphysema (Emphysema Value Set) or chronic bronchitis (Chronic Bronchitis Value Set). To identify acute inpatient discharges:
    - Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set).
    - Exclude nonacute inpatient stays (Nonacute Inpatient Stay Value Set).
    - Identify the discharge date for the stay.

Note:

- The eligible population for this measure is based on acute inpatient discharges and ED visits, not on members. It is possible for the denominator to include multiple events for the same individual.
- Members must have been continuously enrolled from the Episode Date through 30 days after the Episode Date with no gaps in enrollment.
- *Episode Date*: The date of service for any acute inpatient discharge or ED claim/encounter during the Intake Period with a principal diagnosis of COPD.
    - *For an acute inpatient claim/encounter*, the Episode Date is the date of discharge.
    - *For an ED claim/encounter*, the Episode Date is the date of service.
- *Intake Period*: An 11-month period that begins on January 1 of the measurement year and ends on November 30 of the measurement year. The Intake Period captures eligible episodes of treatment.

Refer to the original measure documentation for steps to identify the eligible population.

Exclusions

- Do not include ED visits that result in an inpatient admission.
- *Test for Transfers*. Exclude Episode Dates when the member was transferred directly to an acute or nonacute inpatient care setting for any diagnosis. Organizations must identify "transfers" using their own methods and then confirm the acute or nonacute inpatient care setting using codes in the Inpatient Stay Value Set.

- *Test for Readmission and Additional ED Visits*.
  - Exclude Episode Dates when the member was readmitted to an acute or nonacute inpatient care setting for any diagnosis within 14 days after the Episode Date. To identify readmissions to an acute or nonacute inpatient care setting:
    - Identify all acute and nonacute inpatient stays (Inpatient Stay Value Set).
    - Identify the admission date for the stay.
  - Exclude Episode Dates when the member had an ED visit (ED Value Set) for any diagnosis within 14 days after the Episode Date.

Value Set Information
Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the NCQA Web site to purchase HEDIS Volume 2, which includes the Value Set Directory.

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions
Dispensed prescription for systemic corticosteroid (refer to Table PCE-C in the original measure documentation for a list of systemic corticosteroids) on or 14 days after the Episode Date. Count systemic corticosteroids that are active on the relevant date.

Note: A prescription is considered active if the "days supply" indicated on the date the member filled the prescription is the number of days or more between that date and the relevant date.

> *For an acute inpatient claim/encounter*, the relevant date is the date of admission.
> *For an ED claim/encounter*, the relevant date is the date of service.

Exclusions
Unspecified

Value Set Information
Measure specifications reference value sets that must be used for HEDIS reporting. A value set is the complete set of codes used to identify the service(s) or condition(s) included in the measure. Refer to the NCQA Web site to purchase HEDIS Volume 2, which includes the Value Set Directory.

Numerator Search Strategy

Fixed time period or point in time

Data Source

Administrative clinical data

Pharmacy data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Description of Allowance for Patient or Population Factors

This measure requires that results are reported separately for commercial, Medicaid, and Medicare product lines.

Standard of Comparison

not defined yet

Identifying Information

Original Title

Pharmacotherapy management of COPD exacerbation (PCE).

Measure Collection Name

HEDIS 2016: Health Plan Collection

Measure Set Name

Effectiveness of Care

Measure Subset Name

Respiratory Conditions

Submitter

National Committee for Quality Assurance - Health Care Accreditation Organization

Developer

National Committee for Quality Assurance - Health Care Accreditation Organization

Funding Source(s)

Unspecified

Composition of the Group that Developed the Measure

National Committee for Quality Assurance's (NCQA's) Measurement Advisory Panels (MAPs) are composed of clinical and research experts with an understanding of quality performance measurement in the particular clinical content areas.

Financial Disclosures/Other Potential Conflicts of Interest

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Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2015 Oct

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

This measure updates previous versions:

National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.
National Committee for Quality Assurance (NCQA). HEDIS 2015: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2014. various p.

Measure Availability

Source available for purchase from the National Committee for Quality Measurement (NCQA) Web site.

For more information, contact NCQA at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

Companion Documents

The following are available:

National Committee for Quality Assurance (NCQA). The state of health care quality 2015. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct. 205 p.
National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical update. Washington (DC): National Committee for Quality Assurance (NCQA); 2015 Oct 1. 12 p.

For more information, contact the National Committee for Quality Assurance (NCQA) at 1100 13th Street, NW, Suite 1000, Washington, DC 20005; Phone: 202-955-3500; Fax: 202-955-3599; Web site: www.ncqa.org.

NQMC Status

This NQMC summary was completed by ECRI Institute on November 15, 2007. The information was not verified by the measure developer.

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Production

Source(s)

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 1, narrative. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

National Committee for Quality Assurance (NCQA). HEDIS 2016: Healthcare Effectiveness Data and Information Set. Vol. 2, technical specifications for health plans. Washington (DC): National Committee for Quality Assurance (NCQA); 2015. various p.

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